



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/071,243	02/11/2002	Ki Jun Kim	P-0338	9080
34610	7590	06/19/2006	EXAMINER	
FLESHNER & KIM, LLP P.O. BOX 221200 CHANTILLY, VA 20153			WILSON, ROBERT W	
			ART UNIT	PAPER NUMBER
			2616	

DATE MAILED: 06/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/071,243

Applicant(s)

KIM ET AL.

Examiner

Robert W. Wilson

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 46-89 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 46-53, 55, 56, 69-81, and 85-87 is/are rejected.
- 7) ☒ Claim(s) 54, 57-68, 82-84, 88 and 89 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2616

Claim Objections

1. Claims 54, 57-68, 82-84, & 88-89 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 46-53, 55-56, 65, 69-71, 74-75, 79-81, 85-87 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chung (U.S. Patent No.: 6,741,862) in view of Padovani (U.S. Patent No.: 6,411,799).

Referring to claim 46, Chung teaches: Figure 6 teaches the method for controlling a data transmission rate on a reverse link in a mobile communication system (Figure 1) including a plurality of base stations (14 & 22 per Fig 1) and plurality of mobile stations (16 & 18 per Fig 1). The base station (14 per Fig 1) determines rate control command for controlling the transmission data rate (col. 11 line 26-col. 13 line 57) to each mobile station (16 per Fig 1).

The base stations steals bits out of the RAB control channel to send a rate control command to the mobile station which takes into account the measured value of SIR or buffer in mobile or condition or state at the mobile station per Fig 6 and per col. 11 line 26-col. 13 line 57.

The base sends the data rate control command via the broadcast control signal channel which has been inherently dedicated to the mobile station or forward common channel per Figs 5 or 6 and

Art Unit: 2616

per col. 11 line 26-col. 13 line 57. The command word indicates to the mobile either rate up or increase, down rate or decrease, and no change or maintain current data transmission rate per Fig 6 and per col. 11 line 26-col. 13 line 57.

The mobile station is allowed to adjust or make no change or maintain the transmission rate based upon the data rate control command per Fig 5 or 6 and per col. 11 line 26-col. 13 line 57. Chung does not expressly call for: control bit that is signal point mapped to at least one symbol of +1 (Up), -1 (Down) , and 0 (No change).

Padovani teaches: control bit that is signal point mapped to at least one symbol of +1 (up), -1 (down), and 0 (do nothing or no change) per col. 6 lines 34-47 .

It would have been obvious to add the signal point mapping of Padovani to the control word of Chung because sending a +1 to represent up, -1 to represent down and 0 to represent do nothing or no change is a very efficient way of sending power control message because it provides granularity in control while minimizing the number of bits used in control so there are still plenty of bits left for other functions.

Referring to claim 51, the combination of Chung and Padovani teach: the method of claim 46 and wherein the curate transmission rate of a particular mobile is maintained by sending no change.

The combination does not expressly call for: mapping no change to symbol of 0.

Padovani teaches: mapping a do nothing or no change to a symbol of 0 per col. 6 lines 34-47 .

It would have been obvious to add the signal point mapping of Padovani to the control word of Chung because 0 to represent do nothing or no change is a very efficient way of sending power

Art Unit: 2616

control message because it provides granularity in control while minimizing the number of bits used in control so there are still plenty of bits left for other functions.

In addition Chung teaches:

Regarding claim 47, wherein determining the data rate control command is based on the interference level and interference level or transmission condition of each mobile station (Fig 6 and per col. 11 line 26-col. 13 line 57)

Regarding claim 48 wherein the interference level is determined based on the signals received from each mobile (Fig 5 or 6 and per col. 11 line 26-col. 13 line 57)

Regarding claim 49 wherein the transmission condition is based on currently assigned data transmission rate (Fig 5 or 6 and per col. 11 line 26-col. 13 line 57)

Regarding claim 50, wherein determining the data rate control command is based on a status of each mobile station (Fig 5 or 6 and per col. 11 line 26-col. 13 line 57)

Regarding claim 52, the data rate control command is inserted into certain bit position in the in the slot broadcast control channel or common channel (col. 11 lines 53-59 or col. 12 lines 59-67)

Regarding claim 53, the control bits would have to be inherently offset from the first bit in the broadcast channel or common channel in order to be recognized as control bits (col. 11 lines 53-59 or col. 12 lines 59-67)

Regarding claim 55, the rate control command is based upon cell interference probabilities col. 2 line 21-col. 3 line 62.

Regarding claim 56, the base station calculates default probabilities per col. 2 line 21-col. 3 line 62.

Art Unit: 2616

Regarding claim 65, the data rate control command is generated in accordance SIR calculated at mobile and data rate information received from the mobile per co. 11 line 53-col. 12 line 59.

Referring to claim 69, Chung teaches: a base station apparatus(14 per Fig 1) for controlling transmission rate on a RCB broadcast control or reverse link in a mobile communication system (Fig 1) including a plurality of mobile stations (16 per Fig 1).

The base station (14 per Fig 1) has a inherent means adapted to determines a rate control command for controlling the transmission data rate (col. 11 line 26-col. 13 line 57) to each mobile station (16 per Fig 1) and takes into account the measured value of SIR or condition or state at the mobile station per Fig 6 and per col. 11 line 26-col. 13 line 57.

The base station has an inherent transceiver which is connected to means adapted to send the data rate control command via the broadcast control signal channel or forward common signal channel per Fig 6 and per col. 11 line 26-col. 13 line 57.

The command word formed to indicate to the mobile either rate up or increase, down rate or decrease, and no change or maintain current data transmission rate per Fig 6 and per col. 11 line 26-col. 13 line 57.

Chung does not expressly call for: control bit that is signal point mapped to at least one symbol of +1 (Up), -1 (Down) , and 0 (No change).

Padovani teaches: control bit that is signal point mapped to at least one symbol of +1 (up), -1 (down), and 0 (do nothing or no change) per col. 6 lines 34-47 .

It would have been obvious to add the signal point mapping of Padovani to the control word of Chung because sending a +1 to represent up, -1 to represent down and 0 to represent do nothing

Art Unit: 2616

or no change is a very efficient way of sending power control message because it provides granularity in control while minimizing the number of bits used in control so there are still plenty of bits left for other functions.

In addition Chung teaches:

Regarding claim 70, the base station has inherent means adapted to determining the data rate control command is based on the interference level and interference level or transmission condition of each mobile station (Fig 6 and per col. 11 line 26-col. 13 line 57)

Regarding claim 71, wherein determining the data rate control command is based on a status of each mobile station (Fig 5 or 6 and per col. 11 line 26-col. 13 line 57)

Regarding claim 74, the data rate control command is inserted into certain bit position in the in the slot broadcast control channel or common channel (col. 11 lines 53-59 or col. 12 lines 59-67)

Regarding claim 75, the control bits would have to be inherently offset from the first bit in the broadcast channel or common channel in order to be recognized as control bits (col. 11 lines 53-59 or col. 12 lines 59-67)

Regarding claim 78, the base station has inherent means adapted to determine the rate control command is based upon received current rate that the mobile is transmitting at per col. 2 line 21-col. 3 line 62.

Referring to claim 72, the combination of Chung and Padovani teach: the apparatus of claim 69 and wherein the curate transmission rate of a particular mobile is maintained by sending no change.

The combination does not expressly call for: mapping no change to symbol of 0.

Art Unit: 2616

Padovani teaches: mapping a do nothing or no change to a symbol of 0 per
per col. 6 lines 34-47 .

It would have been obvious to add the signal point mapping of Padovani to the control word of Chung because 0 to represent do nothing or no change is a very efficient way of sending power control message because it provides granularity in control while minimizing the number of bits used in control so there are still plenty of bits left for other functions.

Referring to claim 73, the combination of Chung and Padovani teach: the apparatus of claim 69 and wherein the curate transmission rate of a particular mobile is maintained by sending no change.

The combination does not expressly call for: mapping no change to symbol of 0.

Padovani teaches: mapping a do nothing or no change to a symbol of 0 per
per col. 6 lines 34-47 .

It would have been obvious to add the signal point mapping of Padovani to the control word of Chung because 0 to represent do nothing or no change is a very efficient way of sending power control message because it provides granularity in control while minimizing the number of bits used in control so there are still plenty of bits left for other functions.

Referring to claims 79 & 85, Chung teaches: a mobile station apparatus (16 per Fig 1) for controlling transmission rate on a reverse link per Fig 6 and per col. 11 line 26-col. 13 line 57.

Art Unit: 2616

The mobile station (16 per Fig 1) has an antenna or receiving means adapted to receive a data rate control command of a base station (14 per Fig 10) on a signal control broadcast channel or dedicated forward link common channel per Fig 6 and per col. 11 line 26-col. 13 line 57.

The mobile station (16 per Fig 1) has an inherent control means which is inherently connected to the antenna for receiving the control data transmission rate based on the data rate control command per Fig 6 and per col. 11 line 26-col. 13 line 57.

Chung does not expressly call for: control bit that is signal point mapped to at least one symbol of +1 (Up), -1 (Down), and 0 (No change).

Padovani teaches: control bit that is signal point mapped to at least one symbol of +1 (up), -1 (down), and 0 (do nothing or no change) per col. 6 lines 34-47.

It would have been obvious to add the signal point mapping of Padovani to the control word of Chung because sending a +1 to represent up, -1 to represent down and 0 to represent do nothing or no change is a very efficient way of sending power control message because it provides granularity in control while minimizing the number of bits used in control so there are still plenty of bits left for other functions.

In addition Chung teaches:

Regarding claims 80 & 86, the inherent control means in the base station sends either increase or no change which indicates which applies to the next frame sent by the mobile per Fig 6 and per col. 11 line 26-col. 13 line 57

Regarding claims 81 or 87, the inherent control means adapted to determine the data rate information receives a message from the mobile specifying the current rate as well as fullness of buffer per Fig 5 or 6 and per col. 11 line 26-col. 13 line 57.

Response to Amendment

5. Applicant's arguments with respect to claim 46-89 have been considered but are moot in view of the new ground(s) of rejection.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W. Wilson whose telephone number is 571/272-3075. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 571/272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



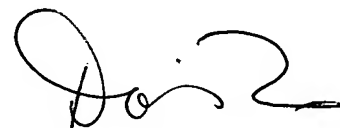
Robert W Wilson

Examiner

Art Unit 2616

RWW

6/2/06



DORIS H. TO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600